Toth et al. S/N: 10/765,618

In the Claims

1. (Currently Amended) A tomographic system comprising:

a rotatable gantry having a bore centrally disposed therein;

a table movable within the bore and configured to position a subject for tomographic data acquisition within the bore;

a high frequency electromagnetic energy projection source positioned within the rotatable gantry and configured to project high frequency electromagnetic energy toward the subject;

a detector array disposed within the rotatable gantry and configured to detect high frequency electromagnetic energy projected by the projection source and impinged by the subject; and

a computer programmed to associate subject-position feedback with data derived from ~~the detector array~~at least one scout scan and at least one sensor to provide subject feedback in a z direction to determine patient contour.

2-3. (Canceled)

4. (Currently Amended) The system of claim ~~3~~1 wherein the computer is further programmed to determine at least one of a projection area (PA), a projection measure (PM), and an oval ratio (OR) from the subject-position feedback and the data derived from the scout scan.

5. (Currently Amended) The system of claim ~~3~~1 wherein the computer is further programmed to determine an elevational offset of the subject from the table.

6. (Currently Amended) The system of claim ~~3~~1 wherein the computer is further programmed to dynamically control attenuation characteristics of a pre-subject attenuation filter such that the attenuation characteristics match a desired attenuation profile.

7. (Previously Presented) The system of claim 6 wherein the desired attenuation profile is determined from the at least one scout scan.

8. (Currently Amended) The system of claim 1 ~~further comprising at least one sensor to provide subject position feedback in a z direction to determine patient contour,~~ wherein the at least one sensor ~~having~~ is at least one of a laser sensor and a sonic sensor.

9. (Currently Amended) A computer readable storage medium having stored thereon a computer program representing a set of instructions which, when executed by at least one processor, causes the at least one processor to:

receive feedback regarding a subject position from ~~a~~ at least one sensor and ~~detector array of~~ at least one scout scan of an imaging device;

acquire image data from the detector array;

compare the feedback to the image data received ~~from the detector array~~; and

determine a centering error from the comparison.

10. (Original) The computer readable storage medium of claim 9 wherein the imaging device includes a medical imaging device.

11. (Original) The computer readable storage medium of claim 9 wherein the at least one processor is further caused to determine an adjustment in a table elevation relative to isocenter to reduce the centering error.

12. (Canceled)

13. (Currently Amended) The computer readable storage medium of claim 9 wherein the at least one processor is further caused to determine at least one of a PA, a PM, and an OR from a subject-contour feedback and data derived from ~~a~~the at least one scout scan.

14. (Currently Amended) The computer readable storage medium of claim 9 wherein the at least one sensors includes at least one of a laser sensor and a sonic sensor.

15. (Currently Amended) The computer readable storage medium of claim 9 wherein the at least ~~on~~ one processor is further caused to determine a lateral repositioning value for subject recentering from the feedback.

16. (Currently Amended) The computer readable storage medium of claim 9 wherein the at least ~~on~~one processor is further caused to determine an attenuation profile of an attenuation filter.

17. (Currently Amended) The computer readable storage medium of claim 16 wherein the at least ~~on~~one processor is further caused to determine an attenuation pattern over a scan duration.

18. (Currently Amended) The computer readable storage medium of claim 9 wherein the at least ~~on~~one processor is further caused to determine a projection error ratio from the positioning information.

19. (Previously Presented) A method of imaging comprising the steps of:

positioning a subject in an imaging device having detector array for acquiring image data;

collecting positioning information of the subject from both at least one sensor disposed in proximity to the imaging device, and from the detector array; and

determining a relative position of the subject within the imaging device from at least the position information.

20. (Original) The method of claim 19 further comprising the step of determining a table elevation relative to isocenter.

21. (Original) The method of claim 20 further comprising the step of determining a centering error of the subject in at least one direction.

22. (Original) The method of claim 21 further comprising the step of repositioning the subject to reduce the centering error.

23. (Original) The method of claim 22 further comprising the step of adjusting table elevation to reduce the centering error.

24. (Original) The method of claim 19 wherein the at least one sensor is disposed in a bore of the imaging device.

25. (Original) The method of claim 19 further comprising the step of acquiring medical diagnostic data of the subject.

26. (Original) The method of claim 19 further comprising the step of detecting a top surface position of the subject from the positioning information.

27. (Original) The method of claim 26 further comprising the step of determining from the top surface position an elevational offset of the subject.

28. (Original) The method of claim 27 further comprising the step of performing a scout scan.

29. (Original) The method of claim 28 further comprising the step of determining the relative position from data acquired during the scout scan.

30. (Original) The method of claim 19 wherein the positioning information includes vector position information.

31. (Original) The method of claim 19 further comprising the step of adjusting an attenuation characteristic of an attenuation filter according to the determined position of the subject.

32. (Original) The method of claim 19 further comprising the step of determining at least one of a PA, a PM, and an OR from the position information.

33. (Currently Amended) A tomographic system comprising:

a rotatable gantry having a bore centrally disposed therein;

a table movable within the bore and configured to position a subject for tomographic data acquisition within the bore;

a high frequency electromagnetic energy projection source positioned within the rotatable gantry and configured to project high frequency electromagnetic energy toward the subject;

a detector array disposed within the rotatable gantry and configured to detect high frequency electromagnetic energy projected by the projection source and impinged by the subject;

at least one sensor to provide subject-position feedback; and

a computer programmed to:

perform ~~at least one~~ two orthogonal scout scans; and

associate the subject-position feedback with data derived from the two orthogonal scout scans.

34. (Previously Presented) The system of claim 33 wherein the computer is further programmed to determine at least one of a projection area (PA), a projection measure (PM), and an oval ratio (OR) from the subject-position feedback and the data derived from the scout scan.

35. (Previously Presented) The system of claim 33 wherein the computer is further programmed to determine an elevational offset of the subject from the table.

36. (Previously Presented) The system of claim 33 wherein the computer is further programmed to dynamically control attenuation characteristics of a pre-subject attenuation filter such that the attenuation characteristics match a desired attenuation profile.

37. (Previously Presented) The system of claim 36 wherein the desired attenuation profile is determined from the at least one scout scan.

38. (Currently Amended) A computer readable storage medium having stored thereon a computer program representing a set of instructions which, when executed by at least one processor, cause the at least one processor to:

receive feedback regarding a subject position from at least one sensor and from at least one scout scan of an imaging device; and

determine a centering error from the feedback~~; and~~

~~associate the feedback with data received from a scout scan~~.

39. (Previously Presented) A computer readable storage medium having stored thereon a computer program representing a set of instructions which, when executed by at least one processor, cause the at least one processor to:

receive feedback regarding a subject position from at least one sensor of an imaging device;

determine a centering error from the feedback; and

determine at least one of a PA, a PM, and an OR from a subject-contour feedback and data derived from a scout scan.

40. (Currently Amended) A method of imaging comprising the steps of:

positioning a subject in an imaging device;

collecting positioning information of the subject from at least one sensor disposed in proximity to the imaging device and from a scout scan;

determining a relative position of the subject within the imaging device from at least the position information; and

adjusting an attenuation characteristic of an attenuation filter according to the determined position of the subject.